APPROACHES TO RURAL HEALTH IN NEPAL

Kristina Piorkowski

Undergraduate Honors Thesis

Department of Economics

Thesis Advisor:

Dr. Alok Bohara

ACKNOWLEDGMENTS

I am very grateful to my advisor Dr. Alok Bohara for all of his guidance, mentoring , and opportunities that he has provided on this thesis. None of this would be possible without it. To Dr. Biraj Karmacharya for his constant assistance on this project. To Dr. Jenn Thacher for providing much support in the survey design. To Dr. Steve Archambault for providing his help and access to his work on the GIS component of the project.

OUTLINE OF PRESENTATION

- Overview of Health Situation in Nepal
- Literature Review
- You and Your Family's Health Survey Project
- Birth Decisions and Health Knowledge: A Probit Regression
- Conclusion

RESEARCH QUESTION

- The research for this thesis focuses on exploring different methods of improving rural health for women in Nepal and it investigates what would be a feasible way of implementing those ideas at Dhulikhel Hospital.

STATUS OF HEALTH IN RURAL NEPAL

ISSUES WITH RURAL HEALTH

- Troubles with Heath Care Access Include:
  - Mountainous terrain
  - Affording treatment
  - Gender equality
  - Government instability
- Women's Health
  - High rates of maternal mortality
  - Education -> Health Care
  - Uterine Prolapse

LITERATURE REVIEW

Worldwide Approaches to Rural Health

- Women, and her other adults in her family, in Bangladesh who participated in a credit program were found to have increased usage of formal health care services. Nanda (1999)
- Having access to medical care is a determinate of health and well being. Best when the staff is ‘professional’. Banerjee (2004)
- It was found that when grants were given to “ultra poor” in rural Bangladesh, that the usage of ‘self-care’ of illnesses decreased and participants were more willing to spend money on allopathic care. Ahmed (2006)
- Amongst people that had health care insurance in the Philippines, they were more physicians present at births. Dror (2005)

CHOICE EXPERIMENTS IN BURKINA FASO

- Key Factors (+)
  - Affordable Premium
  - Trust
  - Distance
- Key Factors (-)
  - Long waiting times
  - Too many prescriptions
  - Unequal treatment

KISIIZI HOSPITAL, UGANDA

A Case Study

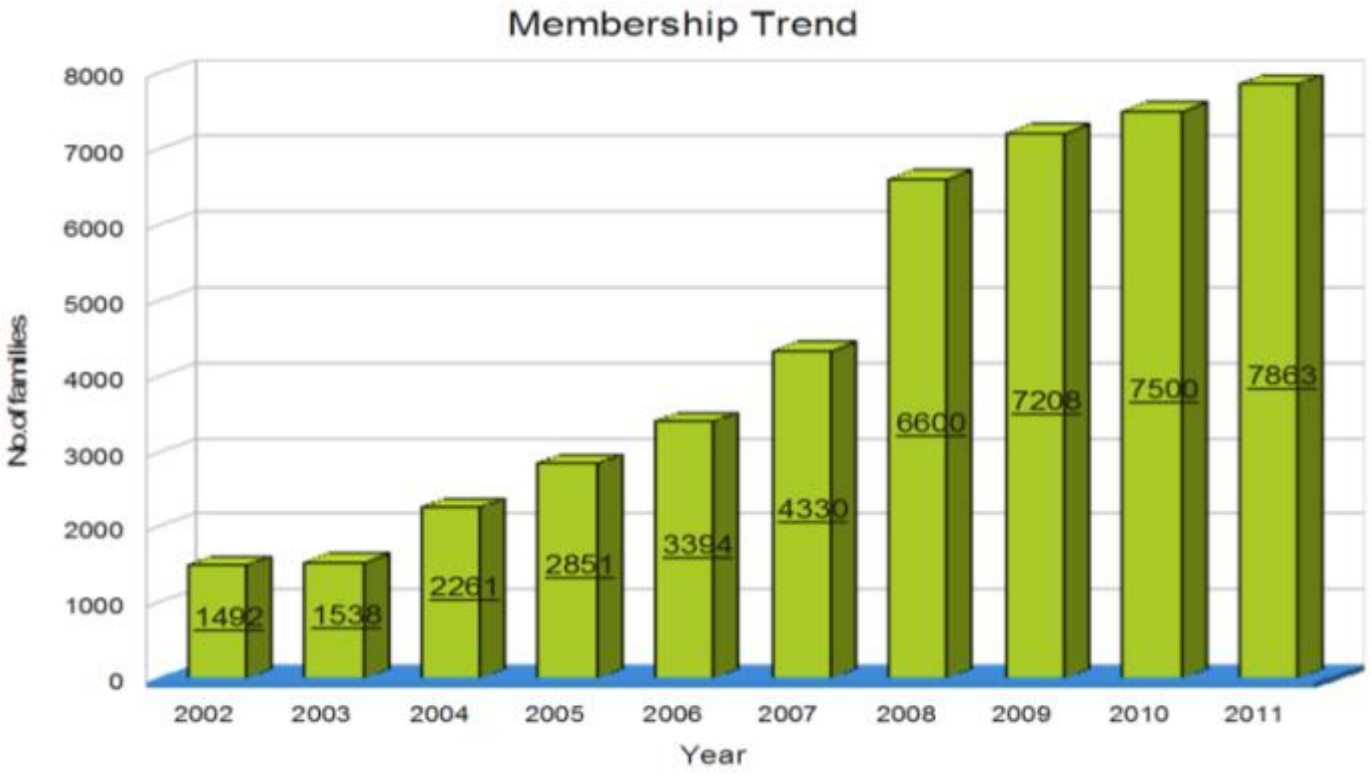
BACKGROUND

- Founded in 1958
- Mission Hospital sponsored by the Church of Uganda and other international organizations
- Started with 24 beds
- Programs they now run:
  - School of Nursing
  - Primary School
  - Hydroelectric Power Company
  - Micro-Health Insurance

MICRO HEALTH INSURANCE

- Started in 1996
- Serves 12 different clinics
- It costs around US$ 35 per year per family (4 person)
- Covers:
  - Inpatient and outpatient services including: VCT, PMTCT , X-ray, Immunization, Nutrition programs, ART for HIV/AIDS
  - Coverage can vary based upon public health criteria determined by the doctors
- Only when 60% of the community (Engozo) subscribe, will the health insurance be offered

- Growth attributed to:
  - Community's confidence in the scheme
  - Scaled-up marketing through:
    - Involving opinion and community leaders
    - Satisfied users (scheme members)
  - Promotion of behaviour change through integration of preventative health & insurance covers
  - Introduction of annual premium allowing households and groups a long time to save
  - Good quality health facility (Kisiizi Hospital)
  - Onsite Client service terminal



THE MHI PLAN NOW COVERS 37,000 INDIVIDUALS

.

That makes it the largest MHI scheme in Uganda.

You and Your Family's Health Survey Project

Micro-health insurance survey

MOTIVATION

- Dhulikhel Hospital
  - Micro Finance Program
- Create a Health Insurance Program
  - Determine the Willingness to Pay

PHASE 1:

- *Baseline Statistics and Hypothesis (Pilot Survey)*
  - Collect Baseline Statistics
  - Dichotomous Contingency Experiment
  - *Research Questions*
    - 1: Estimate the willingness to pay for micro health insurance.
    - 2: Examining family's health care treatment practices to determine if there is a gender gap for treatment.
  - *Potential Outcome:*
    - Dhulikhel Hospital will create a pilot program for micro health insurance based upon the preliminary analysis of Phase 1.
  - Timeline: January-February 2013

PHASE 2:

- *Follow Up Survey (Before Program Survey)*
  - A formal choice experiment
  - Sample Size: 800
  - The effect of health care insurance on health seeking behavior with regards to the gender gap and overall well-being will be analyzed.
  - Timeline: Summer 2013

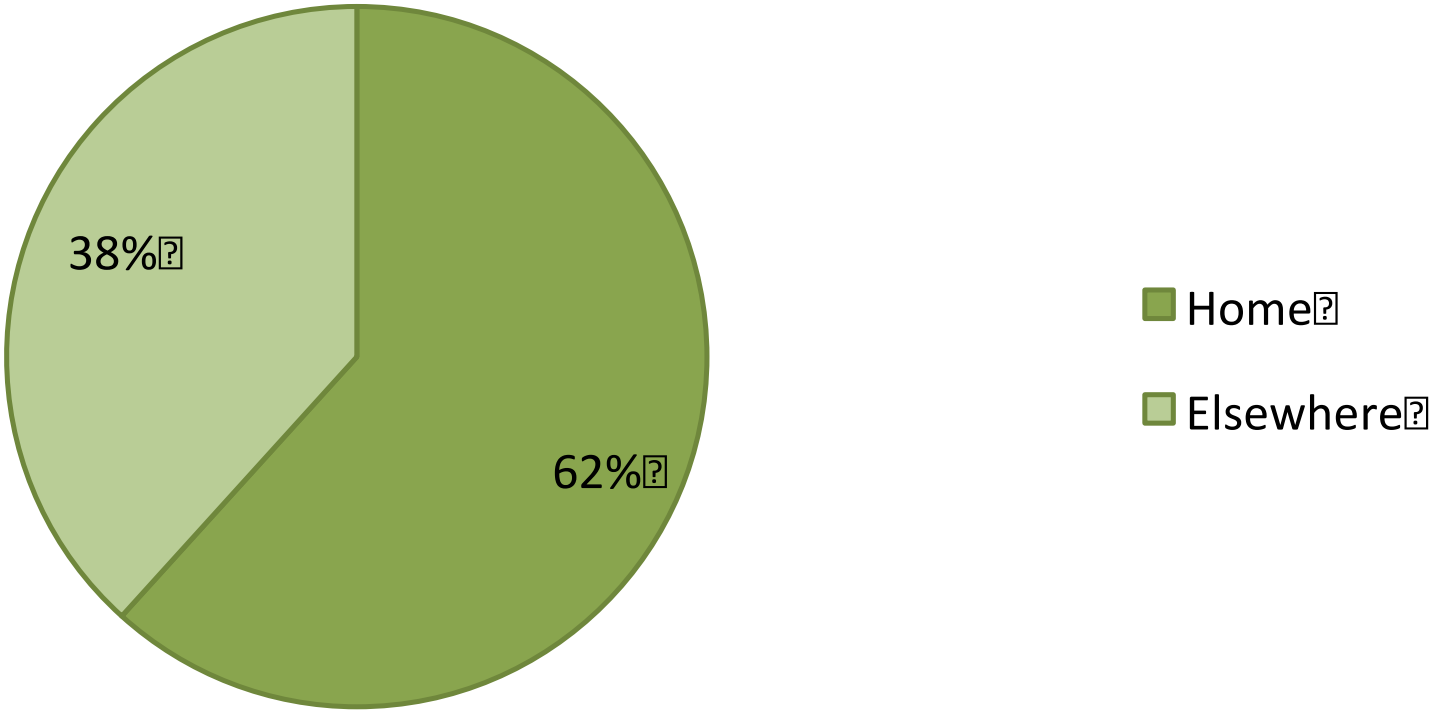
PHASE 3

- *Formal & Rigorous Assessment of Micro Health Insurance as a Treatment on Health Usage, Health Well Being and the Gender Gap (After Program Survey)*
  - Conducted after the micro health insurance program has been implemented with the same 800 households.
  - The treatment effect of micro health insurance on access, attitude, the gender gap and well being will be tested amongst those who did and did not have micro health insurance.
  - The survey will be implemented in other Dhulikhel clinics.
  - Timeline: TBD

BIRTH DECISIONS AND HEALTH KNOWLEDGE

A Probit Regression

Where did you give birth?



- In the Makwanpur district of Nepal, women who received health education had lower rates of maternal mortality and neonatal mortality. Manandhar et al. (2004)
- In an Australian study, they found one of the most important goals to be accomplished in maternity classes is giving the women the confidence to make good decisions on their own. Renkert and Nutbeam (2001)
- A study of Afghan woman found that even though 79% of women had an average of 3.7 antenatal visits, 67% of women gave birth at home. van Egmond et al. (2004)

NLSS III DATA

- Sponsored by Government of Nepal and World Bank
- Third survey of its kind
- Consists of both household and community level data. Has cross section and panel data.
- A total of 5,988 households for a total of 28,670 individuals were surveyed
- Only around 1,000 observations were used in this regression

HYPOTHESIZES

- *Hypothesis 1: When a woman has a health worker visit her house, she will be less likely to give birth at home.*
- *Hypothesis 2: When a woman has a pre-natal visit, she will be less likely to give birth at home.*

PROBIT MODEL

$$HOMEBIRTH_i^* = b_0 + b_1 HWVISIT_i + b_2 PRENATALV_i + b_3 Z_i + u_i$$

- *HOMEBIRTH* is the latent probability of a woman giving birth at home*
  - Where if *HOMEBIRTH*>=0* then *HOMEBIRTH=1*
  - And if *HOMEBIRTH*<0* then *HOMEBIRTH=0*

	homebirth
fatheredu	-0.170 (0.066)**
motheredu	-0.220 (0.136)
prenataly	-1.217 (0.183)**
hwfamplany	0.087 (0.121)
tttoclinic	0.006 (0.005)
hhsize	0.067 (0.016)**
age	0.001 (0.009)
wealth1	-0.765 (0.235)**
wealth2	-0.533 (0.124)**
newar	-0.097 (0.263)
dalit	0.484 (0.148)**
janajatis	0.375 (0.125)**
othercaste	0.289 (0.145)*
getremit	-0.155 (0.095)
hindu	-0.086 (0.142)
mountain	1.159 (0.340)**
hill	0.880 (0.282)**
terai	0.497 (0.284)
_cons	0.386 (0.437)
N	1,038

* $p<0.05$; ** $p<0.01$

RESULTS

Statistically significant:

Father's education (-)

Prenatal Visit (-)

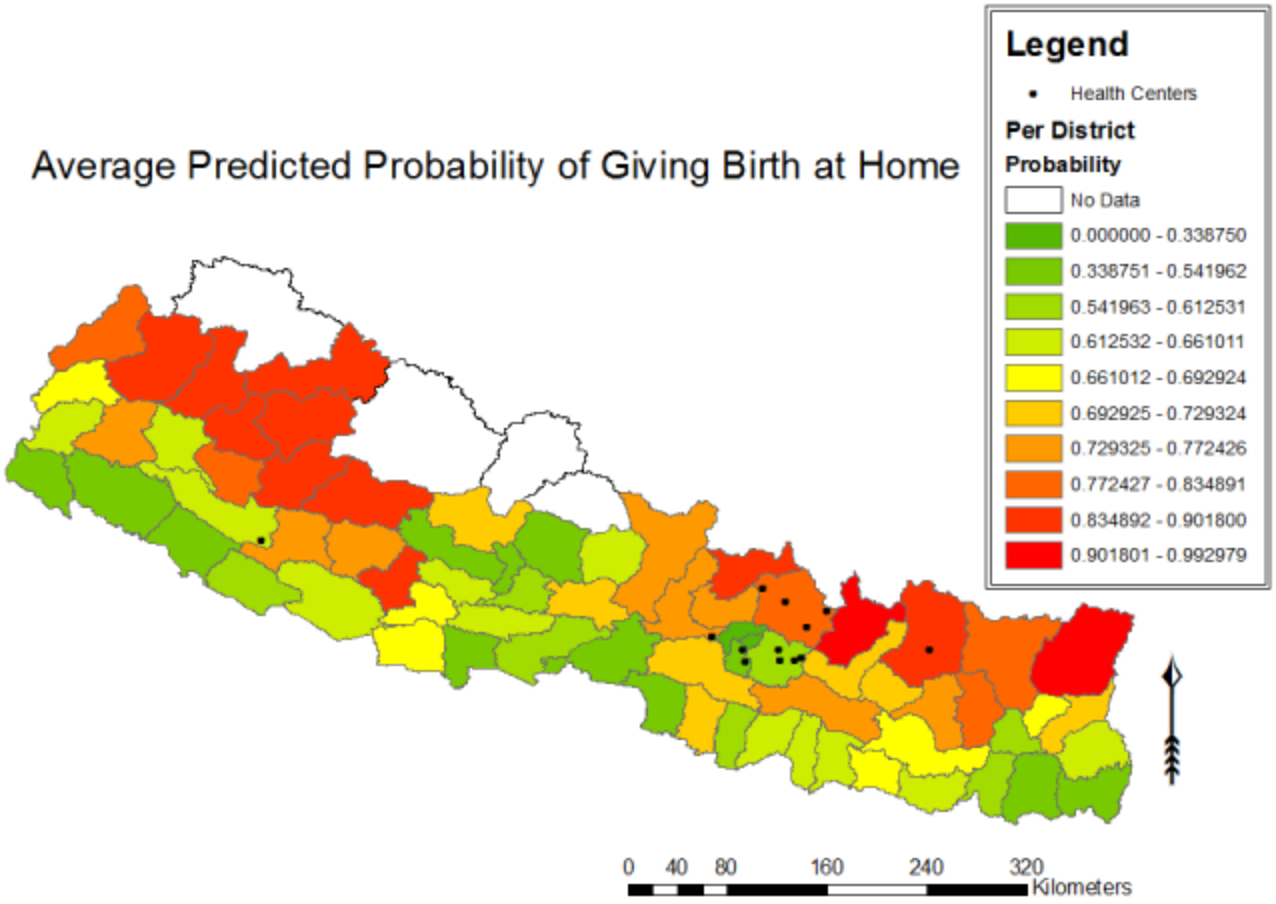
Wealth (-)

Household Size (+)

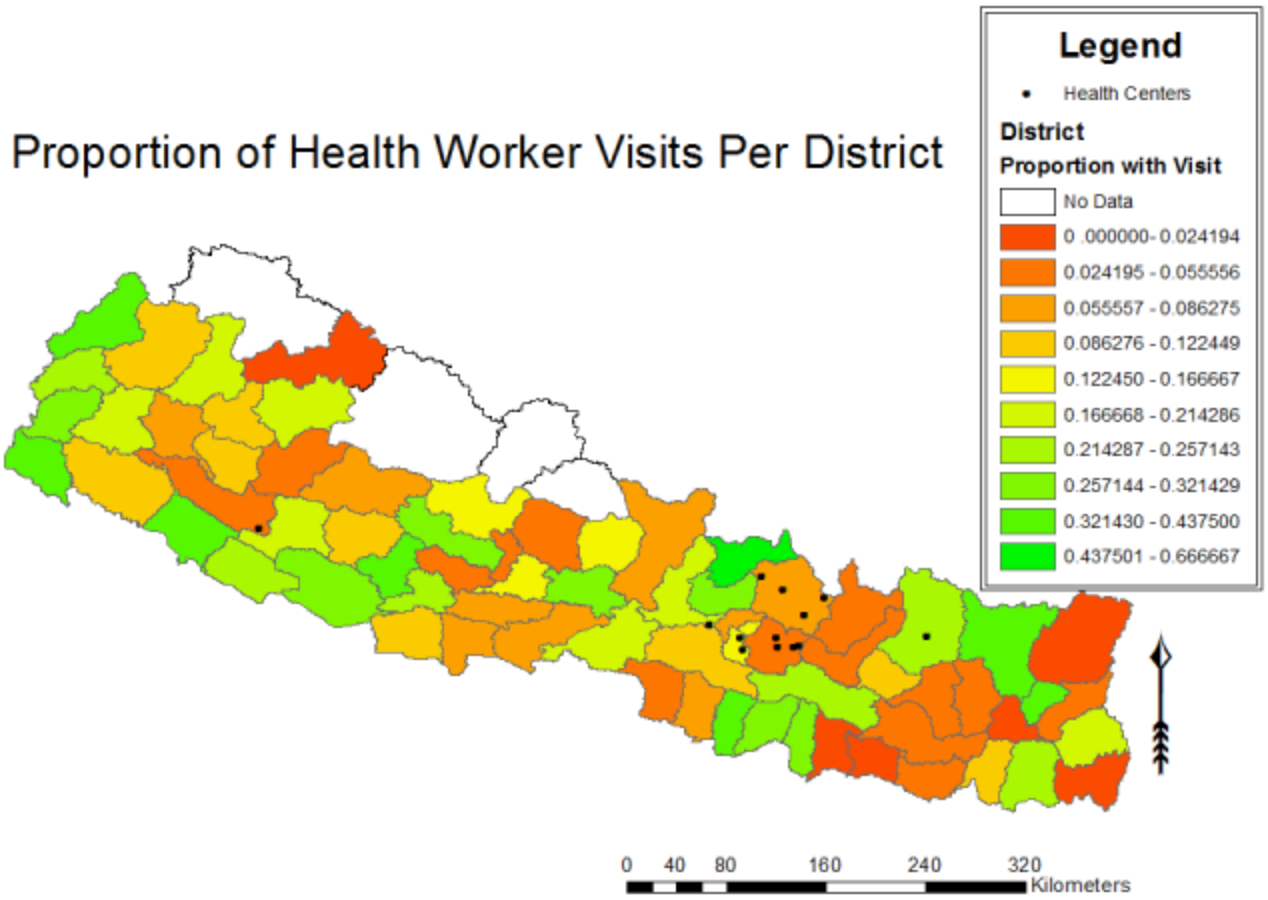
Lower Caste (+)

Mountain and Hill (+)

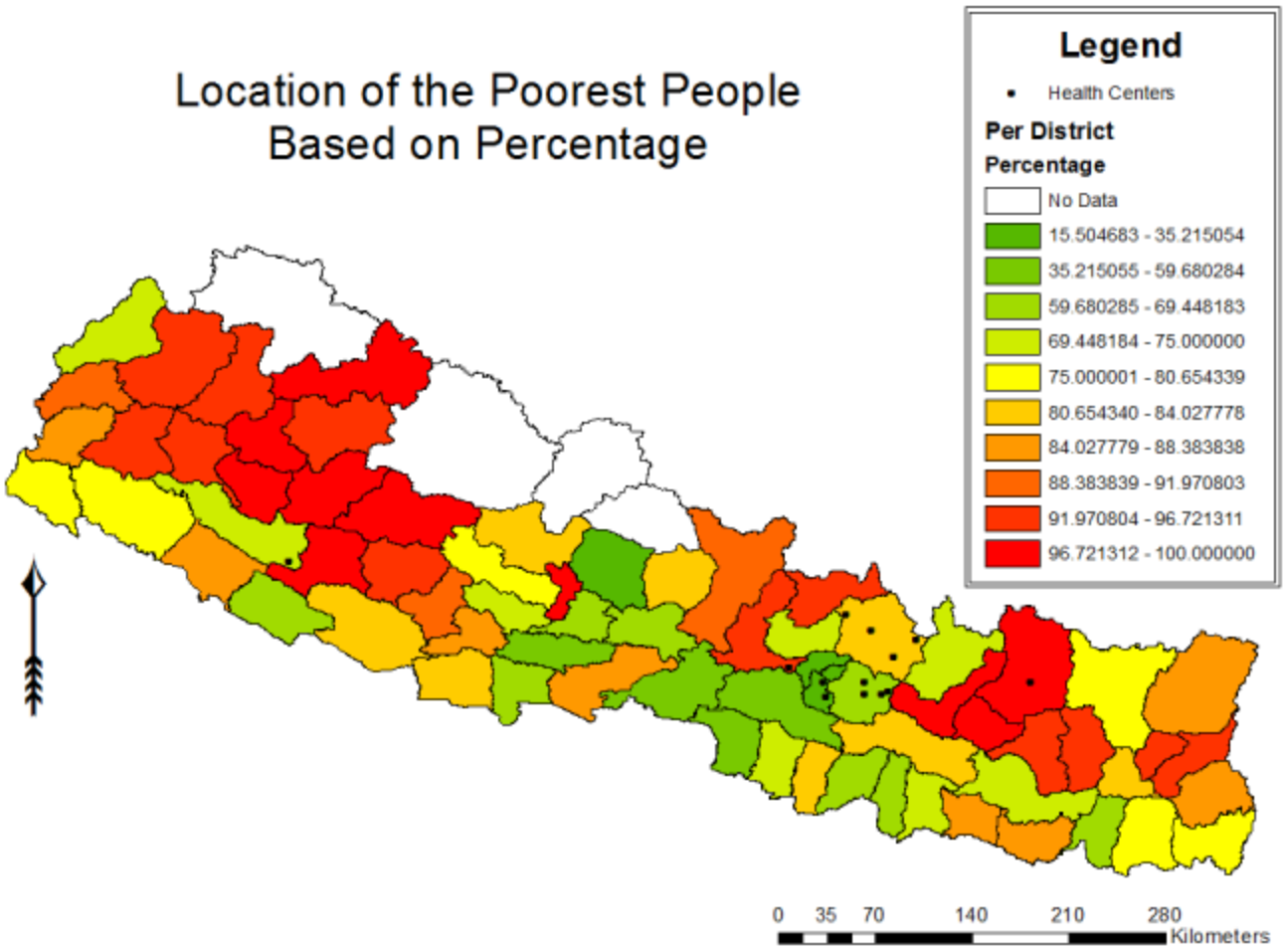
PREDICTED PROBABILITY OF GIVING BIRTH AT HOME



HEALTH WORKER VISIT



LOCATION OF THE POOREST PEOPLE



SUMMARY OF FINDINGS

- *Hypothesis 1: When a woman has a health worker visit her house, she will be less likely to give birth at home.*
  - False. Issues with variable.
- *Hypothesis 2: When a woman has a pre-natal visit, she will be less likely to give birth at home.*
  - *True. Although issue of endogeneity.*

- Future work
  - Correct issue of heteroskedasticity
  - Correct issue of endogeneity

CONCLUSION

RECOMMENDATIONS

- Small tailored programs.
  - Well suited to situation
- Large program
  - Well funded
- A mix of the two
- Include the locals in creation and decision making
- Remember the diversity
- If practical, follow goals set by Government

FUTURE WORK

- Continue survey project
  - 5 year longitudinal survey
- Update probit model
  - Implement similar model with HDS data
- Continue investigating issues with maternal and child health in the developing world

Works Cited:

Ahmed, Syed M., Max Petzold, Zarina N. Kabir, and Göran Tomson. "Targeted Intervention for the Ultra Poor in Rural Bangladesh: Does It Make Any Difference in Their Health-Seeking Behaviour?". *Soc Sci Med* 63, no. 11 (Dec 2006): 2899-911.

Banerjee, A., A. Deaton, and E. Duflo. "Health, Health Care, and Economic Development: Wealth, Health, and Health Services in Rural Rajasthan." *Am Econ Rev* 94, no. 2 (May 1 2004): 326-30.

De Allegri, M., M. Sanon, and R. Sauerborn. ""To Enrol or Not to Enrol?": A Qualitative Investigation of Demand for Health Insurance in Rural West Africa." *Soc Sci Med* 62, no. 6 (Mar 2006): 1520-7.

Dror, David. M., Elmer S. Soriano, Marilyn E. Lorenzo, Jesus N. Sarol, Jr., Rosebelle S. Azcuna, and Ruth Koren. "Field Based Evidence of Enhanced Healthcare Utilization among Persons Insured by Micro Health Insurance Units in Philippines." *Health Policy* 73, no. 3 (Sep 8 2005): 263-71.

Hospital, Kisiizi. "Kisiizi Hospital Health Insurance Scheme." 2012.

———. "Kisiizi Hospital Homepage." http://www.kisiizihospital.org.ug/default.asp.

Manandhar, Dharma S., David Osrin, Bhim Prasad Shrestha, Natasha Mesko, Joanna Morrison, Kirti Man Tumbahangphe, Suresh Tamang*, et al.* "Effect of a Participatory Intervention with Women's Groups on Birth Outcomes in Nepal: Cluster-Randomised Controlled Trial." *The Lancet* 364, no. 9438 (2004): 970-79.

Nanda, Priya. "Women's Participation in Rural Credit Programmes in Bangladesh and Their Demand for Formal Health Care Is There a Positive Impact." *Health Econ* 8 (1999): 415-28.

Programme, International Labour Office: Strategies and Tools against Social Exclusion and Poverty. "Helath Micro-Insurance a Compendium." 2000.

Renkert, Susan, and Don Nutbeam. "Opportunities to Imporve Maternal Health Literacy through Antenatal Education: An Exploratory Study." *Health Promotion International* 16, no. 4 (2001).

van Egmond, Kathia, Marleen Bosmans, Ahmad Jan Naeem, Patricia Claeys, Hans Verstraelen, and Marleen Temmerman. "Reproductive Health in Afghanistan: Results of a Knowledge, Attitude and Practices Survey among Afghan Women in Kabul." *Disasters* 28, no. 3 (2004): 269-82.